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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,572	08/23/2003	James J. deBlanc	200206163-1	9534

22879 7590 05/04/2006

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EXAMINER	
RAHLL, JERRY T	
ART UNIT	**PAPER NUMBER**
2874	

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/646,572	DEBLANC ET AL.	
	Examiner	Art Unit	
	Jerry T. Rahll	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date. *8/23/03, 1/23/04.* 8/2/05
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements (IDS) submitted on 23 August 2003, 23 January 2004, and 13 August 2005 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

2. The drawings submitted have been reviewed and determined to facilitate understanding of the invention. The drawings are accepted as submitted.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2, 4-5 and 9-11 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent Application Publication No. 2003/0118310 to Steinberg et al.

5. Regarding Claim 1, Steinberg et al. describes a method of forming an optical communications path including creating a channel (16) within a planar layer (12) and forming a portion of an optical path (24) in the channel.

6. Regarding Claim 2, Steinberg et al. describes creating the channel using a chemical process to remove planar layer material (see Paragraph 0025).

7. Regarding Claim 4, Steinberg et al. describes lithography defining a location of the optical path on the planar layer and etching the planar layer along the defined location of the optical path to create the channel (see Paragraph 0025).

8. Regarding Claim 5, Steinberg et al. describes filling the channel with an optical core medium (see Paragraph 0027).

9. Regarding Claim 9, Steinberg et al. describes depositing a cladding portion (22) within the channel and depositing a core medium (24) in the channel.

10. Regarding Claim 10, Steinberg et al. describes the cladding having a refractive index less than the core refractive index (see Figures 16-18(e)).

11. Regarding Claim 11, while Steinberg et al. does not specifically describe the cladding portion as reflective along a side adjacent the optical core medium, the cladding described by Steinberg et al. would inherently be reflective to allow for light-guiding along the core.

12. Claims 1-2, 4-5, 12-14, 16, 18-19 and 21-22 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,624,077 to White.

13. Regarding Claim 1, White describes a method of forming an optical communications path including creating a channel (212) within a planar layer (206) and forming a portion of an optical path (210) in the channel.

14. Regarding Claim 2, White describes creating the channel using a chemical process to remove planar layer material (see Figures 4A-4D).

15. Regarding Claim 4, White describes lithography defining a location of the optical path on the planar layer and etching the planar layer along the defined location of the optical path to create the channel (see Column 7 Lines 44-50).

16. Regarding Claim 5, White describes filling the channel with an optical core medium (see Figure 4E and Column 8 Line 65-Column 9 Line 15).

17. Regarding Claim 12, White describes the planar layer as a semiconductor (see Column 4 Line 50).

18. Regarding Claim 13, White describes the walls of the channel having a lower refractive index than the core medium (see Column 5 Lines 40-50).

19. Regarding Claim 14, White describes the optical path as noncylindrical (see Figure 1 and Column 2).

20. Regarding Claim 16, White describes a method of forming an optical communication path including providing a first substrate (206) having a channel face (213) defining a first channel (212), providing a second planar layer (205) having a complementary channel face (214) defining a second channel (210), and placing the planar layers such that the first and second channels oppose each other to form a composite channel (210) defining the optical path (see Figure 2A).

21. Regarding Claim 18, White describes depositing the core medium within the first and second channels (see Figure 4E and Column 8 Line 65-Column 9 Line 15).

22. Regarding Claim 19, White describes filling the composite channel with an optical core medium (see Column 6 Lines 45-50, where the core medium is air).

23. Regarding Claim 21, White describes the first and second channels having semi-circular cross-sections (see Figures 2A, 3A and 3B).

24. Regarding Claim 22, White describes creating the channels using a chemical process applied to a planar layer (see Figures 4A-4D).

25. Claims 1-2, 6-9 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent Application Publication No.2001/0026670 to Takizawa et al.

26. Regarding Claim 1, Takizawa et al. describes a method of forming an optical communications path including creating a channel (2) within a planar layer (1) and forming a portion of an optical path (4) in the channel.

27. Regarding Claim 2, Takizawa et al. describes creating the channel using a chemical process to remove planar layer material (see Paragraph 0059).

28. Regarding Claim 6, Takizawa et al. describes depositing a first cladding portion (3) in the channel, depositing an optical core medium (4) in the channel, and depositing a second cladding layer (5) over the optical core medium (see Figures 5-8 and Paragraphs 0058-0065).

29. Regarding Claims 7-8, Takizawa et al. does not specifically describe the cladding portions as having an index of refraction less than the index of refraction of the core, or as being optically reflective along a side adjacent to the optical core medium. However, claddings inherently possess such properties to guide light through an optical core.

30. Regarding Claim 9, Takizawa et al. describes depositing a cladding portion (3) in the channel and depositing an optical core medium (4) in the channel (see Figures 5-8 and Paragraphs 0058-0065).

31. Regarding Claim 14, Takizawa et al. describes the optical path as substantially noncylindrical (see Paragraph 0056).

Claim Rejections - 35 USC § 103

32. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

33. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

34. Claims 3, 15 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over White.

35. White describes methods of forming an optical communication path, as discussed above.

36. Regarding Claims 3 and 23, White does not specifically describe molding the planar layers with the channels. However, White does describe the planar layer formed from plastic (see Column 6 Line 65). It is well-known in the art that plastic may be molded into a desired shape. At the time of invention, it would have been obvious to one of ordinary skill in the art to mold the layers described by White with channels. The motivation for doing so would have been to eliminate the need for additional manufacturing steps to create the channels.

37. Regarding Claim 15, White does not specifically describe forming an electrical trace on the substrate. However, it is well-known in the art to create electrical traces on semiconductor substrates. Therefore, at the time of invention, it would have been obvious to one of ordinary skill in the art to form an electrical trace on the semiconductor planar layer described by White.

The motivation for doing so would have been to allow for connection to optoelectronic devices that may be optically connected to the optical communication path.

38. Claims 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over White as applied to claim 16 above, and further in view of Steinberg et al.

39. Regarding Claim 17, White describes a method of forming an optical communication path, as discussed above. White does not specifically describe applying a reflective coating to the first and second planar layers. Steinberg describes a method of forming an optical communication path including applying a reflective coating (22) to a planar layer. At the time of invention, it would have been obvious to one of ordinary skill in the art to apply the reflective coating of Steinberg et al. to the planar layers of White et al. The motivation for doing so would have been to reduce signal leakage along the optical communication path.

40. Regarding Claim 20, White describes a method of forming an optical communication path, as discussed above. White does not specifically describe applying a reflective coating to the first and second channels. Steinberg describes a method of forming an optical communication path including applying a reflective coating (22) to a channel. At the time of invention, it would have been obvious to one of ordinary skill in the art to apply the reflective coating of Steinberg et al. to the channels of White et al. The motivation for doing so would have been to reduce signal leakage along the optical communication path.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry T. Rahll whose telephone number is (571) 272-2356. The examiner can normally be reached on M-Th (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jerry T Rahll

MICHELLE CONNELLY-CUSHWA
PRIMARY EXAMINER
3/16/06